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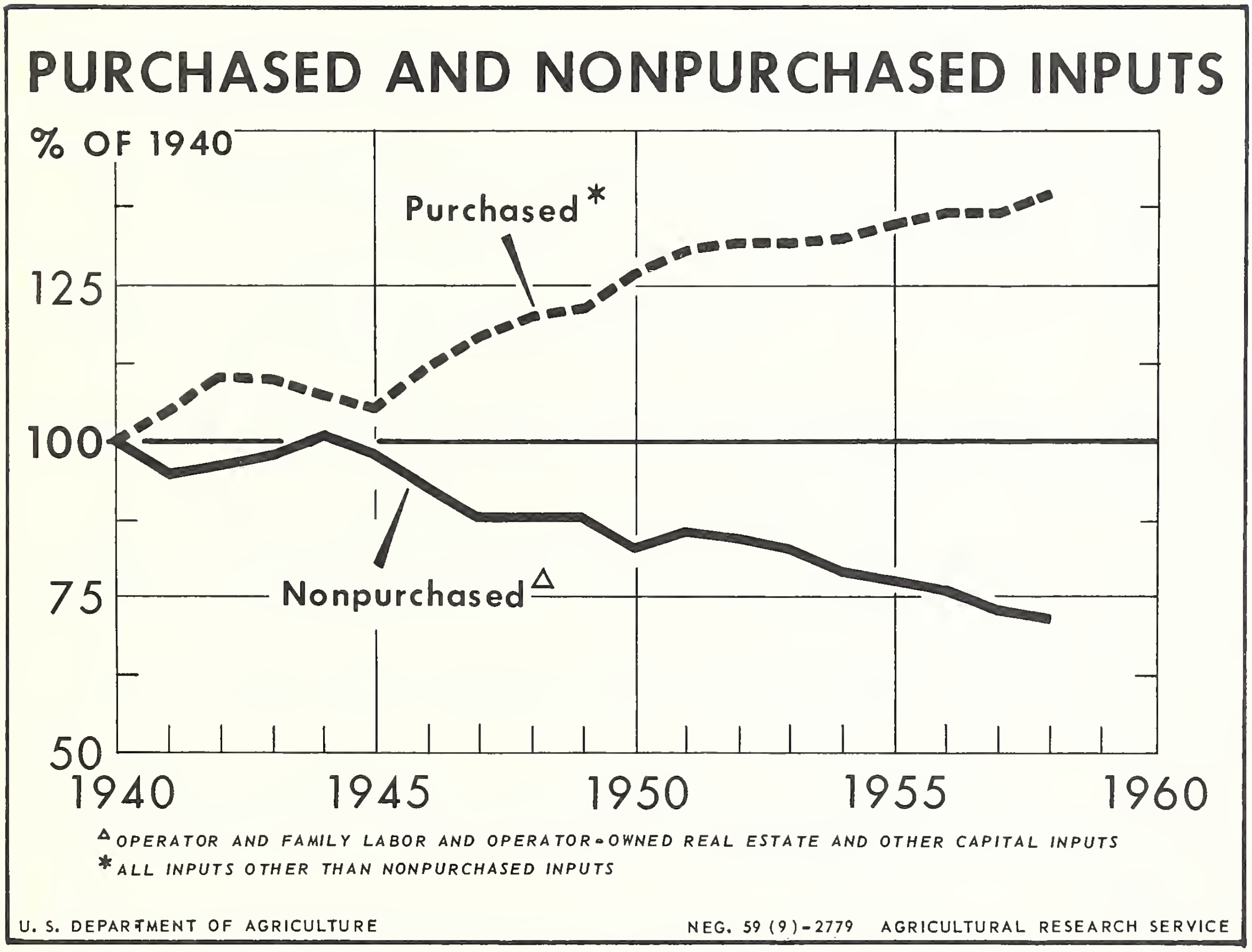
THE FARM COST SITUATION

Agricultural Research Service
UNITED STATES DEPARTMENT OF AGRICULTURE

ARS 43-125 (FCS-28) MAY 1960



Since 1940, about 30 percent of operator and family labor and farmer-owned capital goods have been replaced by purchased goods and services. Total inputs rose only 4 percent.

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Goods and services used in production: Index numbers of cost rates and prices paid by farmers, United States

(1947-49=100)

Year or period	Commodities, interest, taxes, and wage rates	Commodities only	Feed	Livestock	Motor supplies	Motor vehicles	Farm machinery	Farm supplies	Building and fencing materials	Ferti-lizer	Seed	Wage rates
Average:												
1910-14	39	42	43	29	---	---	42	42	34	70	41	23
1915-19	59	63	68	44	---	---	54	70	48	101	62	34
1920-24	65	61	60	33	---	---	65	77	57	101	60	42
1925-29	65	61	58	44	94	49	64	73	54	92	60	43
1930-34	50	47	39	25	74	49	61	61	47	75	40	28
1935-39	49	52	45	36	74	56	64	60	49	71	49	28
1940	49	52	43	41	71	56	64	62	49	69	42	30
1941	53	55	47	46	74	59	65	66	53	69	40	35
1942	60	62	57	54	79	64	69	73	58	76	54	46
1943	68	69	68	61	81	67	71	82	60	81	68	61
1944	73	73	75	58	82	73	73	86	64	83	77	74
1945	77	74	74	63	82	75	74	87	66	84	79	83
1946	83	81	87	72	84	77	76	88	72	85	91	90
1947	95	95	102	90	92	90	86	95	93	93	93	97
1948	104	105	109	111	103	100	101	100	104	102	109	103
1949	101	100	89	99	105	110	113	105	103	105	98	100
1950	104	104	91	116	106	110	115	105	105	101	94	99
1951	115	115	102	141	111	118	124	112	117	106	96	109
1952	117	116	108	118	112	123	129	119	118	109	109	117
1953	111	108	98	85	114	122	130	116	118	110	99	120
1954	111	108	98	87	116	123	130	112	118	110	93	118
1955	110	106	91	85	117	122	131	110	120	109	98	120
1956	111	106	89	79	119	127	135	111	125	106	86	124
1957	114	108	87	89	124	136	142	112	129	107	89	130
1958	117	111	86	110	123	142	148	112	130	107	88	134
1959	119	112	86	109	124	147	156	111	133	106	84	142
Jan.	120	113	87	114	---	148	---	---	---	---	---	142
Feb.	1/ 120	113	87	109	---	---	---	---	---	---	84	---
Mar.	120	113	87	115	123	147	153	1/ 112	132	---	83	---
Apr.	1/ 120	114	88	118	---	---	---	---	---	106	83	144
May	120	113	87	117	---	---	---	---	---	---	84	---
June	120	113	86	113	123	145	155	111	133	---	---	---
July	120	112	86	110	---	145	---	---	---	---	---	144
Aug.	119	112	86	108	---	---	---	---	---	---	---	---
Sept.	119	112	84	107	124	144	158	111	133	106	84	---
Oct.	118	111	84	103	---	---	---	---	---	---	---	140
Nov.	118	111	84	100	---	147	---	---	---	---	---	---
Dec.	118	111	84	98	125	152	158	111	133	---	---	---
1960:												
Jan.	120	112	85	103	---	149	---	---	---	---	---	147
Feb.	120	112	85	104	---	---	---	---	---	---	87	---
Mar.	121	113	85	109	124	147	159	111	133	---	87	---
Apr.	122	113	86	113	---	---	---	---	---	106	88	151

1/ Revised.
Agricultural Marketing Service.

THE FARM COST SITUATION

Approved by the Outlook and Situation Board, May 6, 1960

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GENERAL SITUATION

Farm production expenditures in 1960 are likely to be higher than the $26.0 billion estimated for 1959. The average of prices paid for production goods and services in April 1960 was slightly above that of a year earlier, despite lower prices for feed and livestock, which comprised about 28 percent of all production expenses in 1959.

The use of production items from nonfarm sources likely will continue to increase, and prices of most of these items will be higher in 1960 than in 1959. Wage rates of hired labor are expected to increase, although total expenditures for hired labor may not change appreciably from those of 1959. Interest payments and property taxes will be up sharply. Total expenditures for livestock and feed may be lower.

Prices paid for 7 major groups of production items were from 1 to 6 percent higher in the spring of 1960 than a year earlier. On the other hand, prices of two groups were 2 and 4 percent lower, and prices of three groups were unchanged (table 1).

Compared with 1947-49, real estate taxes and prices of farm real estate have risen 94 and 73 percent, respectively, by the spring of 1960. Substantial rises occurred also in prices of farm machinery and motor vehicles and wage rates of hired labor. Among major groups of items, only the prices of feed and seed were below those of 1947-49.

Table 1. - Prices paid for production items, Spring 1960

Class of expenditures	Change from 1959	Change from 1947-49
	Percent	Percent
Feed (April 15)	-2	-14
Feeder livestock (April 15)	-4	13
Motor supplies (March 15)	1	24
Motor vehicles (March 15)	0	47
Farm machinery (March 15)	4	59
Farm supplies (March 15)	0	11
Building and fencing materials (March 15)	1	33
Fertilizer (April 15)	0	6
Seed (April 15)	6	-12
Taxes (annual average)	6	94
Wage rates (April 1)	5	51
Farm real estate (March 1)	3	73

Costs by Type of Farm

Despite substantially higher prices paid for production goods and services on 29 of 30 major types of farms in 1957-59 compared with a decade earlier, operators of 7 of the 30 were able to reduce operating expenses per unit of product. Three of the seven types of farms were cotton farms, on which increased mechanization reduced production costs; one of these, irrigated farms in the High Plains, also increased production by 43 percent. The other four raised production per farm by 30 to 50 percent during the decade; these were dairy farms in eastern Wisconsin, hog-dairy farms in the Corn Belt, poultry farms in New Jersey, and sheep ranches in the Southwest.

Total operating expenses included a larger proportion of nonfarm inputs in 1957-59 than 10 years earlier on 26 of 30 important types of commercial farms. The only exceptions were dairy, poultry, and beef fattening farms, and livestock ranches on which expenditures for feed or replacement livestock rose sharply in recent years.

FARM LABOR

Farm labor will be more costly this year, as wage rates continue to climb. On April 1, 1960, monthly, daily, and hourly wage rates were higher than a year earlier in each region and in most States. The United States average of all methods of payment was 4.6 percent higher than on April 1, 1959 (table 2). The total wage bill, however, probably will be about the same as in 1959, as total employment of hired labor is likely to decline.

For the United States as a whole, farm wage rates increased an average of 3 cents per hour from the 72-cent level of the first quarter of 1959. The Pacific region had the greatest increase - 4 cents per hour - while the Mountain and East South Central regions recorded 3-cent increases. In all other regions, the composite rate increased 2 cents per hour.

In March 1960, the average hourly earnings of all production workers in manufacturing was $2.29. This was a 3.2-percent increase from the $2.22 hourly wage of March 1959.

Most of the increase in farm wage rates occurred in the second and fourth quarters of last year (fig. 1). During the third quarter, average rates rose less than usual; this resulted in a decrease in the seasonally adjusted index of wage rates. Large numbers of lower paid southern workers entered the labor force to harvest cotton, peanuts, and some other crops that matured earlier than usual.

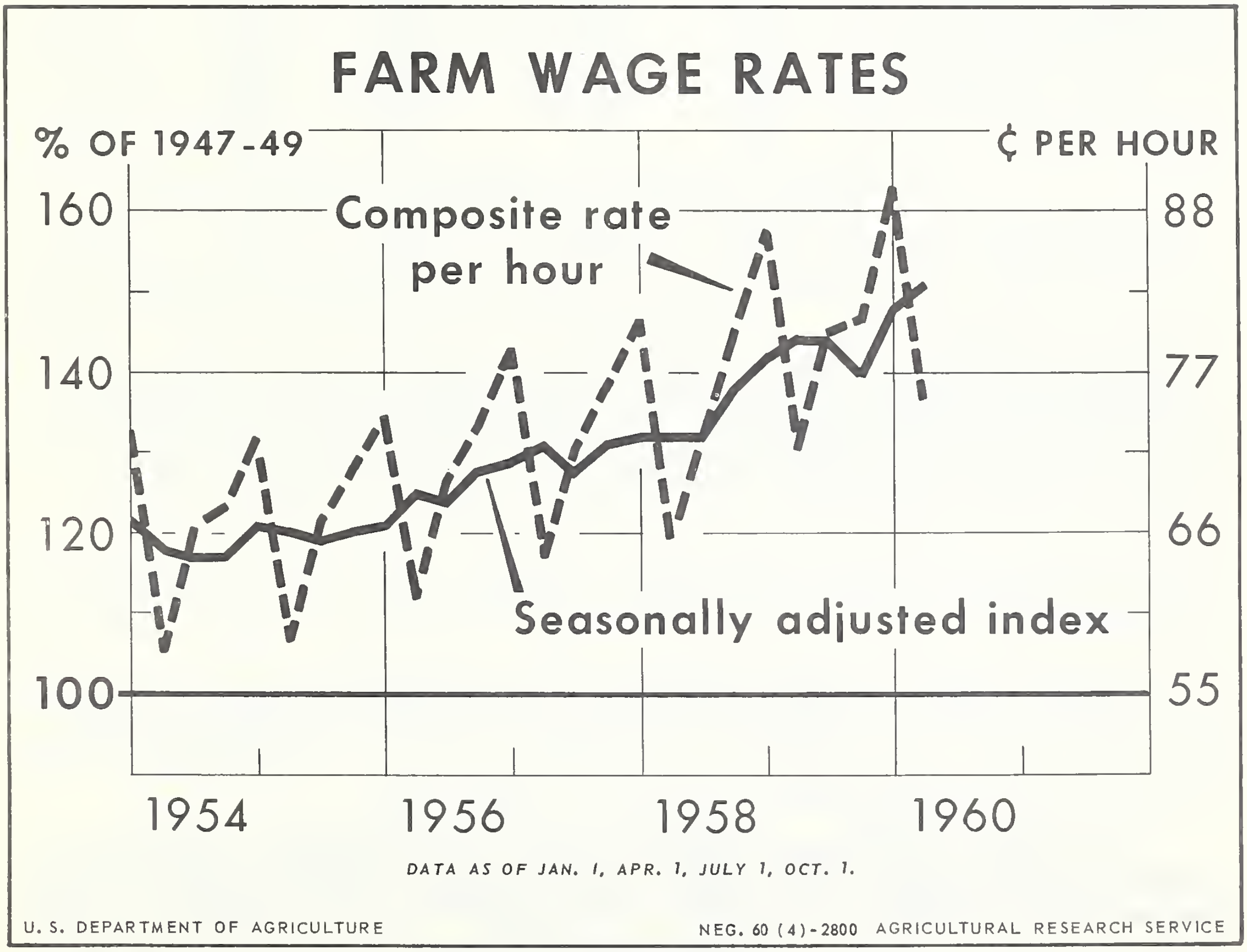


Figure 1

Table 2. - Average farm wage rates, by regions, April 1, 1960, compared with rates on April 1, 1959

Region	Average wage rates, April 1, 1960 1/				Percentage change, 1959 to 1960 2/
	With board and room, per month	Without board or room		Composite, per hour	
		Per day	Per hour		
	Dollars	Dollars	Dollars	Dollars	Percent
New England	156	9.50	1.17	.96	2.8
Middle Atlantic	144	8.90	1.10	.79	2.2
East North Central	141	8.70	1.08	.72	2.0
West North Central	146	9.00	1.06	.76	2.2
South Atlantic	3/	5.60	.74	.57	3.5
East South Central	3/	4.65	.64	.46	5.8
West South Central	3/	6.10	.76	.63	2.5
Mountain	174	8.70	1.03	.85	2.8
Pacific	208	3/	1.21	1.18	3.4
United States	145	6.40	1.03	.75	4.6

1/ Selected from 9 types of rates for which averages are reported. Composite is hourly equivalent of all types of rates.

2/ Based on composite rates per hour. The greater percentage increase in the United States as compared with most regions results from a relatively greater employment in higher rate areas during the survey week of 1960.

3/ Relatively unimportant in this region but used in computing national average.

From the monthly report, Farm Labor, prepared by the U. S. Agricultural Marketing Service.

Piece rates for hand picking seed cotton in 1959 increased 5.7 percent over the 1958 rate. On November 1, they averaged $2.80 per hundredweight. They were higher in all States except Oklahoma, Texas, and the Western States. The rate was the highest paid for any year since 1953.

The demand for harvest labor increased sharply despite substantially greater use of mechanical harvesters, particularly in the Southeast and the Southern Great Plains. The increase of 28 percent in cotton acreage, coupled with a near record yield, increased production to the highest level since 1955. Growers' options to plant more acres and the ending of the Acreage Reserve Program interrupted the westward movement of cotton acreage. Yields of cotton rose more in the Delta and the eastern part of the Cotton Belt than in the Western States; production in these areas was 60 percent higher than in 1958. In the western area, 1959 production was only 9 percent greater than in the previous year. These regional differences in adjustments in acreage, picking rates, proportion picked by hand, and production tended to increase the U. S. average rate for hand picking of cotton.

The good cotton crop in the eastern areas in 1959 may have influenced wage rates for other farm jobs. During the last year, average rates rose 3.5 percent in the South Atlantic Region and 5.8 percent in the East South Central States. These increases were greater than in other parts of the country.

Piece rate workers on crops other than cotton are finding that mechanization has interrupted the continuity of their work. As a result, the migratory streams of seasonal workers have been broken, and in 1959, many farmers had difficulty obtaining workers. For example, the snap bean harvester so reduced the need for migratory workers in New York State that the numbers coming into the area were greatly reduced, and many of those who arrived left before fall crops were ready to harvest. Many labor camps closed. Apple and potato growers who formerly relied on workers from these camps had to look elsewhere for labor.

Mechanization of production of fruits and vegetables has been slow and difficult, but progress is being made. Scientists have developed a variety of tomatoes that ripens most of its fruit at one time and has a skin tough enough to withstand mechanical harvesting. This spring, seed became available for commercial production.

Another problem heightened by mechanization is the need for a higher quality of worker. More skilled labor than is available at prevailing wage rates is needed to operate farm machinery. Shortages of skilled workers will continue as these workers are most capable of finding nonfarm employment.

This spring's planting intentions differ little from last year's planted acreage. The cotton program is unchanged, corn acreage intentions are the same, and the total acreage of small grains will be virtually unchanged. Output of fruits and vegetables is not expected to differ materially from that of 1959. Even though farmers' intentions to plant are about the same as a year ago, the amount of labor used on farms this year probably will be less than that used last year, as mechanization will continue to reduce labor requirements.

Nonagricultural employment is expected to be higher than in 1959, and the competition for workers from the nonagricultural sectors will be keen. As in the past, foreign workers will be available for seasonal jobs in areas certified as unable to obtain sufficient numbers from domestic sources.

FARM POWER AND MACHINERY

Prices of farm machinery in 1960 are expected to be higher than in 1959, but the increase may not be as great as the average of recent years.

Average prices of farm machinery and motor vehicles were 3 to 4 percent higher in 1959 than in 1958. This continued a fairly steady upward trend, which started in 1955, of around 4 percent a year.

In recent years, wholesale prices of farm machinery and equipment have increased about 3 percent during September-December (fig. 2). But this was not true in 1959, when they rose less than one-half of 1 percent during the comparable period. An increase in wholesale prices in February, however, suggested that some of the price rise that might have been expected in late 1959 was postponed to early 1960. Retail prices of motor vehicles averaged the same this spring as a year ago, but the index of prices of other farm machinery was 4 percent higher.

Prices farmers paid for motor supplies in April 1960 were 1 percent higher than a year earlier. This increase reflects partly the addition of 1 cent a gallon in Federal tax on gasoline which became effective on October 1, 1959; the increase in filling station and tank truck prices was only a half-cent a gallon. But prices of gasoline for nonhighway use on farms were about one-half cent lower after refund of the Federal tax.

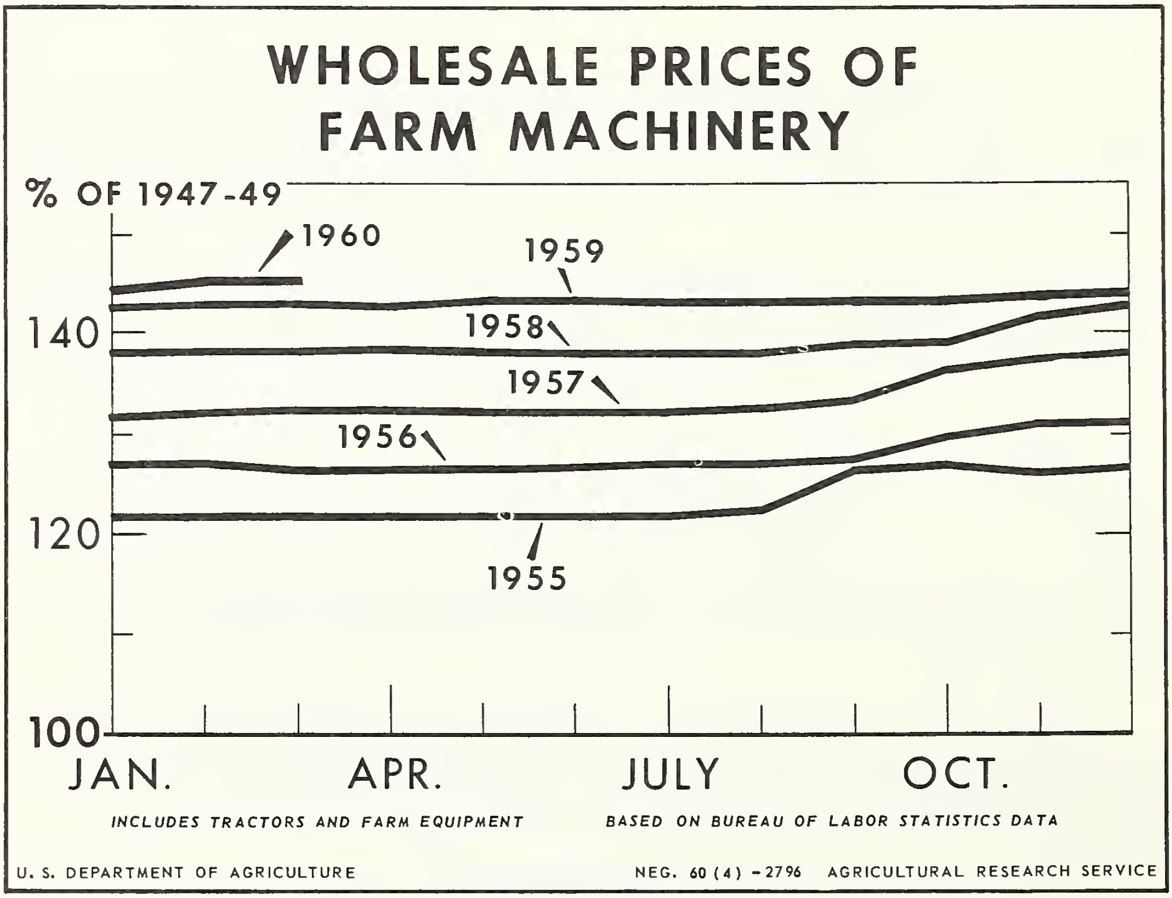


Figure 2

Farmers' purchases of machines and equipment, as indicated by shipments and inventories of major field machines, remained relatively high during 1959 (table 3). But purchases of new and used machinery have been noticeably lighter in some areas this spring. This suggests that in 1960, farmers may make a more critical analysis of whether to repair machinery or replace it.

Table 3. - Manufacturers' shipments and index of inventories of selected machines, 1958 and 1959 1/

Item	Units shipped		Percentage change	Inventory (January 1, 1955=100)		Percentage change
	1958	1959		October 1, 1958	October 1, 1959	
	Number	Number	Percent			Percent
Wheel tractors	239,161	255,273	7	103	114	11
Combines	47,057	43,640	-7	76	72	-5
Cornpickers	35,711	44,494	25	167	134	-20
Forage harvesters	23,807	27,726	16	113	151	34
Pick-up balers	69,128	57,846	-16	112	114	2

1/ Indexes based on reports from manufacturers accounting for 60 to 95 percent of shipments of these products. Includes manufacturer and dealer owned equipment.

Current Industrial Reports, U. S. Bureau of the Census.

About 184,000 wheel tractors were in inventories of manufacturers and dealers on February 1, 1960 - about 4,700 more than a month earlier. Comparable data for earlier periods are not available.

Farmers appear to be well supplied with tractors, trucks, and field machines. In 1959, farmers as a group had 100 tractors and 65 motortrucks per 100 farms; farms with 25 or more acres of corn for grain had about 90 cornpickers per 100 farms. Comparable data on numbers of combines, pickup balers, and forage harvesters are not available on a per farm basis, but judging by the number of machines per 100 acres of crops on which they are used, farmers are well supplied with them, also.

Materials-handling equipment on farms is not nearly as plentiful as field equipment. Farms with 15 or more dairy cows in 1959 had only about

20 barn cleaners and 10 pipeline milkers per 100 farms. Also, farmers had only 6 silo unloaders per 100 upright silos. The efficient use of farmstead equipment, however, often requires adoption of several machines to operate in series to constitute a smoothly operating system. These systems frequently call for construction of new buildings or redesigning of old ones.

FEED

The supply of all feed concentrates for the feeding year beginning October 1, 1960 - including feed grains, byproduct feeds, and about 2 million tons of wheat and rye for feeding - would total a record 270 million tons based on carryover and intended acreage and normal yields, about 3 percent more than a year earlier. The number of grain-consuming animal units is expected to drop about 2 million below 1959-60 to 168 million units, with an increase in numbers of beef cattle more than offset by a decline in numbers of hogs and poultry. According to these estimates, the total supply per animal unit would be 1.61 tons, about 4 percent more than a year ago. Consumption last year was nearly 0.94 tons per animal unit. Prices of feed grains will continue to be somewhat lower than a year earlier.

The supply of feed grains for the 1960-61 feeding year (expected carryover stocks, plus estimated 1960 production based on March planting intentions) is expected to exceed the record supply of the 1959-60 season by about 3 percent. The total production of feed grains in 1960, estimated from intended acreages and average yields in recent years adjusted for the upward trend in yields of corn and sorghum grain, would be about 162 million tons, only 2 percent below the record output of last year. The small reduction in production indicated would be more than offset by an expected increase of nearly 10 million tons in carryover, giving a total feed-grain supply of 240 million tons. This is about 7 million tons above the record supply of last year.

The supply of hay for the 1959-60 feeding year was about 139 million tons, 6 percent less than the previous year.

Supplies of high-protein and other byproduct feeds for 1960-61 probably will at least equal the 1959-60 tonnage. Total supplies of soybeans for 1960-61 are expected to be about as large as the 600 million bushel level of the last 2 years. Even though the prospective acreage is up 6 percent from last year, a smaller carryover is in prospect. Production of cottonseed meal and linseed meal may go up a trifle. Production of tankage and meatmeal will be near this year's high level, as livestock slaughter is expected to continue at about the present rate through 1960-61.

Prices of most feeds averaged a little lower during the 1959-60 feeding year than in the same period of 1958-59 (table 4). Lower price supports, large supplies of feed grains, lower average prices for livestock and poultry, and reduced demand for formula feeds, especially poultry and hog feeds, have

Table 4. - Average prices of feed in the United States, April 15, 1958-60

Item	Unit	1958	1959	1960	Percentage change 1959 to 1960
		Dollars	Dollars	Dollars	Percent
Prices received by farmers:					
Corn	Bu.	1.12	1.13	1.05	-7
Oats	Bu.	.62	.60	.68	13
Barley	Bu.	.86	.90	.84	-7
Sorghum grain	Cwt.	1.77	1.80	1.55	-14
Hay, baled	Ton	18.20	18.80	22.50	20
Prices paid by farmers:					
Mixed dairy feed, 16 pct. protein	Cwt.	3.65	3.74	3.68	-2
Laying mash	Cwt.	4.48	4.52	4.38	-3
Broiler mash	Cwt.	4.97	4.93	4.69	-5
Cottonseed meal	Cwt.	3.95	4.26	4.08	-4
Soybean meal	Cwt.	4.21	4.26	4.16	-2
Bran	Cwt.	2.93	3.13	3.05	-3
Middlings	Cwt.	2.99	3.21	3.08	-4
Alfalfa hay, baled	Ton	30.70	29.50	33.10	12
Average value of concentrate ration fed to poultry and milk cows: 1/					
Fed to poultry	Cwt.	3.47	3.44	3.39	-1
Fed to milk cows in milk-selling areas	Cwt.	2.94	2.96	2.97	0
Fed to milk cows, in cream-selling areas	Cwt.	2.44	2.40	2.44	2

1/ Value of corn, oats, oilmeal, millfeed, commercial mixed feed, and other feeds, which make up 100 lbs. of "grain" ration.

been bearish factors in the market. Feed grain prices have made less than their normal seasonal rise since last fall. In mid-April, the index of prices received by farmers for feed grains was 5 percent below a year earlier. The index of wholesale prices of high-protein feeds averaged 7 percent lower in April than a year before. The index of prices paid by farmers for feed was 2 percent lower than a year earlier. Feed prices probably will continue a little below a year earlier, at least through the first half of 1960. Hay prices have been 10 to 20 percent higher this year than last, reflecting the reduced 1959-60 supply and the prolonged spring feeding period.

Price supports on 1960 crops of the four feed grains were announced by the Department of Agriculture on February 19. The minimum national average support price for corn is $1.06 per bushel, 6 cents less than the 1959 support level. The 1960 support price is 65 percent of the February 1960 parity price of $1.63 per bushel. National average price supports for oats, barley, and sorghum grain were announced at the same levels that were in effect for the 1959 crops. These support prices are 50 cents per bushel for No. 3 oats; 77 cents per bushel for No. 2 or better barley, and $1.52 per 100 pounds of No. 2 or better sorghum grain.

Roughage-consuming animal units are expected to increase from about 99 million units this year to nearly 103 million units in the year beginning October 1, 1960; about 3 million units of the increase are expected to come from beef cattle.

Gross returns per $1.00 of feed cost, based on April 15, 1960, prices, showed an increase of about 30, 14, and 25 percent over returns a year ago for eggs, broilers, and turkeys, respectively. The returns from hogs increased 7 percent, but returns from milk, butterfat, sheep raising, and beef raising showed decreases of 8, 13, 8, and 18 percent, respectively (table 5).

LIVESTOCK

By mid-April, prices paid by farmers for replacement and feeder livestock were 15 percent above those of last December. Prices in December, however, were at a low point, about 17 percent below those of April last year. Prices in mid-April this year were 13 percent above the 1947-49 average compared with 18 percent above the 1947-49 average a year ago (table 6).

The ratio of prices received for meat animals to prices paid for feeder and replacement livestock in April was slightly more favorable than it was 3 months earlier but less favorable than a year ago (table 7). Compared with a year ago, prices received for meat animals are down about 8 percent, but feed prices are only 2 percent lower and prices of most other items used in livestock production are as high or slightly higher. Thus, the profit margins in feeding purchased livestock at current prices are less favorable than they were a year ago.

The number of cattle on farms and ranches was at an all time high of 101.5 million head on January 1, 1960. In the 21 States for which comparable data are available the number of cattle and calves on feed April 1 was 8 percent larger than a year ago. The number of feeders that will move to feedlots during the remainder of the year will depend on conditions of pastures and ranges, and farmers' and ranchers' expectations as to future prices of both feeders and fat cattle.

Table 5. - Gross returns from livestock enterprises per $1.00 of feed cost, United States, based on April 15 prices, 1947-60

Livestock enterprise or product	Gross return per $1.00 of feed cost				Percentage change 1959 to 1960
	Average, 1947-56	1958	1959	1960	
	Dollars	Dollars	Dollars	Dollars	Percent
Eggs	1.44	1.58	1.17	1.52	30
Broilers	1.57	1.40	1.18	1.35	14
Turkeys	1.75	1.62	1.37	1.71	25
Milk	1.72	2.03	2.01	1.85	-8
Butterfat	1.36	1.53	1.51	1.31	-13
Hogs	1.59	2.19	1.66	1.78	7
Sheep raising	1.53	1.59	1.48	1.36	-8
Beef raising	1.81	2.52	2.68	2.19	-18
	Index numbers (1947-56=100)				
Eggs	100	110	81	106	---
Broilers	100	89	75	86	---
Turkeys	100	93	78	98	---
Milk	100	118	117	108	---
Butterfat	100	112	111	96	---
Hogs	100	138	104	112	---
Sheep raising	100	104	97	89	---
Beef raising	100	139	148	121	---

1/ The following quantities of feed were used to calculate the cost of feed:

Eggs (per dozen)----------------7 lbs. poultry ration
Broilers (per lb.)--------------2.8 lbs. broiler mash
Turkeys (per lb.)---------------4.75 lbs. poultry ration
Milk (per cwt.)-----------------31 lbs. concentrates and 110 lbs. hay
Butterfat (per lb.)-------------7.75 lbs. concentrates and 27 lbs. hay
Hogs (per cwt.)-----------------7.5 bu. corn and 20 lbs. soybean meal
Sheep and lambs (per cwt.)-------2 bu. corn and 1,500 lbs. hay
Beef raising (per cwt.)----------3 bu. corn and 600 lbs. hay

In order to estimate costs of all harvested forages and pasture in the above quantities of feed, feeds from these sources were converted into hay equivalent and the price received by farmers for "all hay" was applied. It was assumed that feed nutrients from pasture cost one-fourth as much as the nutrients in hay. About one-third of the feed consumed by sheep is allotted to the production of wool. During the period 1947-59, quantities of broiler mash used to calculate broiler feed costs were: 1947-49, 4 pounds; 1950-52, 3 1/2 pounds; 1953-54, 3 1/4 pounds; 1955-56, 3 pounds; 1957-60, 2.8 pounds. From 1947-50, 5.5 pounds of poultry ration were used to calculate the cost of rations for turkeys. Basic data on amounts of feed fed are from Consumption of Feed by Livestock, 1909-56, U. S. Dept. Agr. Prod. Res. Rpt. 21, 128 pp., illus. 1958.

Table 6. - Prices paid by farmers for replacement livestock, 1959-60 1/

Class	April 1959	October 1959	December 1959	April 1960
	Dollars	Dollars	Dollars	Dollars
Feeders and stockers:				
Cattle and calves, per cwt.	27.50	24.40	22.60	25.60
Lambs, per cwt.	19.20	18.40	16.90	20.40
Hogs, per cwt.	16.80	13.80	12.40	16.70
Baby chicks, straight-run, per 100	13.50	10.70	11.40	14.70
Turkey poults, each	.618	.497	.544	.628
Milk cows, each	235.00	228.00	218.00	226.00
Index, 1947-49=100	118	103	98	113

1/ From U. S. Agr. Market. Serv., Agricultural Prices.

Table 7. - Index numbers: Prices received for meat animals and prices paid for selected production items, 1959 and 1960

(1947-49=100)

Class	April 1959	October 1959	December 1959	April 1960
Prices received for meat animals	101	87	79	93
Prices paid for replacement and feeder livestock	118	103	98	113
Ratio of prices received to prices paid	86	84	81	82
Prices paid for feed	88	84	84	86
Prices paid for all production items, interest, taxes, and wage rates	120	118	118	122

Since April 1959, prices of feeder cattle have dropped more than prices of fat cattle (fig. 3). Prices of both classes of livestock reached a low point in December. Since then, prices of 500 to 800 pound Good feeder steers at Kansas City have risen nearly $2.00 per hundredweight, and prices of Choice slaughter steers at Chicago have risen about $2.50 per hundredweight. Currently, prices of feeder cattle are lower relative to fat cattle than they have been in several months. This wider spread may reflect in part lower prices expected later in the year when cattle purchased in recent months are sold. An offsetting factor may be lower prices of feed.

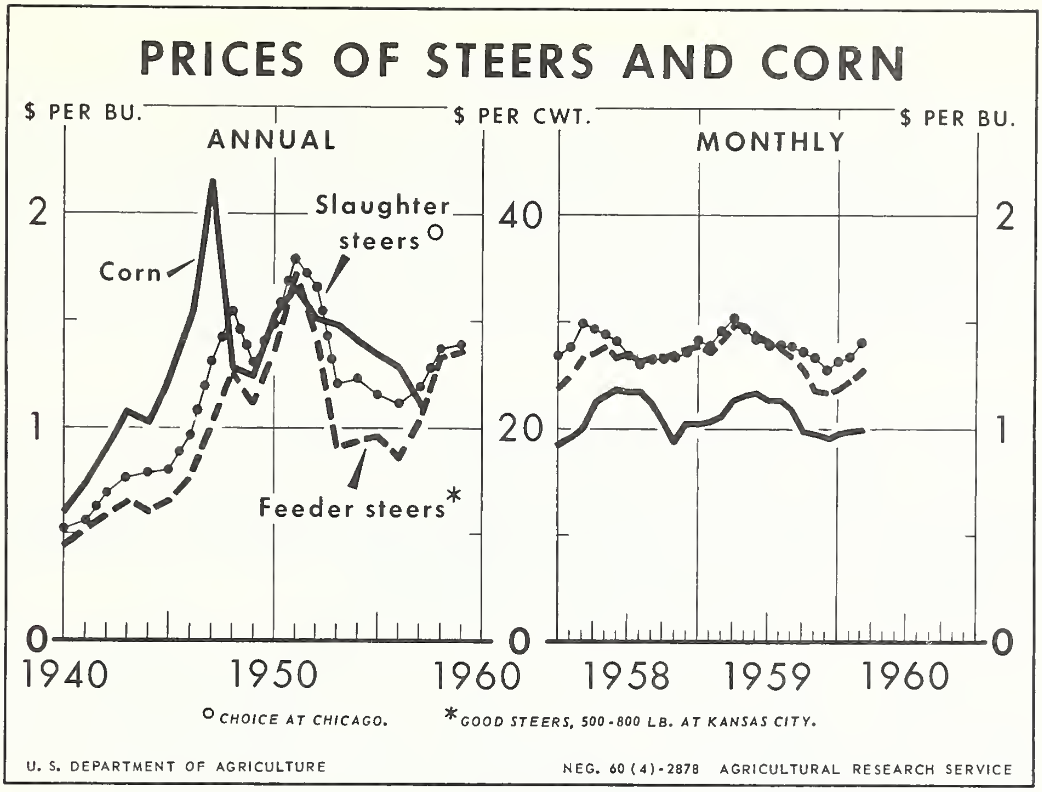


Figure 3

SEED

Retail prices of seeds commonly bought by farmers for spring planting generally were higher on April 15 than they were a year earlier. The average of all seed prices was up about 6 percent, largely because prices of certified seed potatoes were about 90 percent above last year's very low level.

Compared with a year earlier, prices paid by farmers in mid-April were higher by 53 percent for smooth bromegrass and tail fescue, 45 percent for crested wheatgrass, 27 percent for forage sorghums, 21 percent for Kentucky bluegrass, 18 percent for Korean lespedeza, 16 percent for orchardgrass, and 11 percent for certified varieties of alfalfa.

Seed prices that were as much as 10 percent lower on April 15 than a year earlier were timothy (21 percent), common ryegrass (14 percent), and red clover (10 percent).

Prices of most seeds including those of certified seed potatoes were below the average prices reported for the 10 years 1949-58. Among the 27 items for which comparable data are available, prices of only three - cowpeas, hybrid seed corn, and orchardgrass - were above their respective 10-year averages on April 15.

FERTILIZER

Prices paid by farmers for fertilizer have changed little from the spring of 1959. They remain at about 6 percent above the 1947-49 average. During the last year, relative prices of the three principal plant nutrients - N, P_2O_5, and K_2O have changed very little. In recent years, prices of nitrogen have declined relative to prices of the other two nutrients, as a result of increased production and use of higher analysis materials including anhydrous ammonia and solutions.

Total supplies of fertilizer materials are expected to be 5.2 percent above last year. Output capacity for each of the primary nutrients is increasing, partly as a result of the continued demand for higher analysis fertilizers. Nitrogen supplies for fertilizer are estimated at 3.1 million tons for the year ending June 30, 1960, up 11 percent from a year earlier. Phosphate supplies estimated at 2.8 million tons and potash at 2.2 million tons show lesser increases of 3.6 and 1 percent, respectively.

Because of a late spring, farmers have been slow in obtaining their fertilizer supplies. This situation may create distribution problems later in the season. If consumption of fertilizer for the year equals or slightly exceeds last year's consumption, a much higher than usual proportion will need to appear in distribution channels between early April and time for completion of applications on spring crops.

BUILDING MATERIALS

During the early months of 1960, prices of building and fencing materials held at about the same levels as in the latter part of 1959. They are slightly higher than a year earlier. The index (1947-49=100) in March stood at 133, the same as in December 1959 compared with 132 in March 1959. This index includes a number of items for which prices have declined since last fall while prices of others have risen. In all instances, changes were moderate.

Thus it seems likely that a farmer who is planning to add to, remodel, or repair his buildings in 1960 will find prices of building materials about the same as in 1959, although considerably higher than they were 5 to 10 years ago. A wider range of materials is available than a few years earlier. Even more important, he may find a wider selection of building designs and related equipment. If he is a dairy farmer, for example, and is faced with extensive repairs of his milking facilities, or if he wants to expand his herd substantially with the same labor force, he can consider a herringbone milking parlor, which has been available in this country only since 1957. If he is a hog producer, he may want to adapt his buildings and equipment to add automation to the care and feeding of hogs. Any farmer who has the problem of handling and storing feed, seed, supplies, or other materials can find new kinds of equipment and buildings to reduce labor requirements, to make the job easier, and to permit the increased output per man that is necessary if income is to be maintained under conditions of rising labor costs.

No doubt, further improvements will be made in building materials and in the design of farm buildings. Some of these improvements may be of such significance as to make obsolete some buildings that are still structurally sound, in much the same way that loose housing barns and milking parlors for dairy cows have tended to replace stanchion barns in some areas. This possibility suggests that if farm service buildings could be so designed as to have a limited life of 10 to 15 years, they could be constructed more cheaply and abandoned economically in a relatively short time. Whereas, owners of higher cost buildings may hesitate to abandon obsolete structures while they are still sound.

PESTICIDES

Manufacturers' prices of several pesticidal chemicals were reduced in recent months, while few increases have been noted since last summer. Materials quoted at lower prices include benzene hexachloride, endrin, lindane, and cube (rotenone). So far as these reductions in manufacturers' prices are reflected in retail prices, they followed the lead taken by prices of organic phosphate insecticides during 1959.

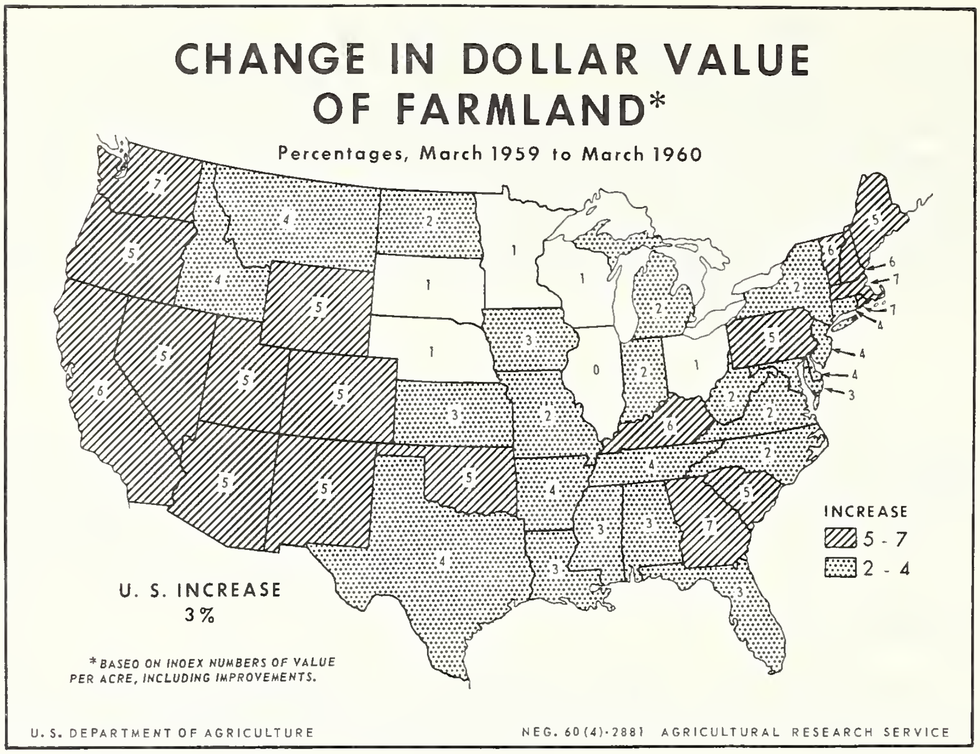
The late spring has delayed shipment of pesticides. Supplies are expected to be sufficient, but distribution may not be adequate to meet sudden heavy outbreaks of insects and plant diseases or rapid shifts in users' preferences.

The upward trend in the use of pesticides in the United States is continuing. An estimated gain of 5 percent in sales of pesticidal chemicals at the primary manufacturers' level occurred during 1959 without the stimulus of any spectacular outbreak of insect pests or plant diseases.

FARM REAL ESTATE

The increase in the market value of farm real estate slowed perceptibly in 1959. After advancing 6 to 8 percent in each of the 3 previous years, the increase in the 12 months ended March 1, 1960, was only 3 percent. Although no State reported a decline in the latest 12-month period, increases were 2 percent or less in most of the Corn Belt, Lake States, and Northern Plains (fig. 4). Values increased more than the national average in most of the Mountain and Pacific States and in New England.

In the 4 months ended March 1, 1960, changes of 1 percent or less occurred in 30 States. Gains of 2 and 3 percent were reported in both the Northern and Southern Plains and in the Pacific Coast States. The national index increased only 1 percent, but in the comparable period of 1958-59, values rose 3 percent.


CHANGE IN DOLLAR VALUE
OF FARMLAND*
Percentages, March 1959 to March 1960
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INCREASE
▨ 5 - 7
▒ 2 - 4
U. S. INCREASE
3%
* BASED ON INDEX NUMBERS OF VALUE PER ACRE, INCLUDING IMPROVEMENTS.
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Figure 4

In a March 1960 survey of the farm real estate market, reporters were asked whether they thought market values would increase, stay about the same, or decline in the next six months. The same question was asked the same group of reporters in a similar survey conducted in the fall of 1959.

Fewer reporters expected prices to increase this spring compared with last fall. The most pronounced shift in expectations occurred in the Corn Belt, where the greatest weakness in market values has developed since last fall. Elsewhere, there were smaller declines in the proportion expecting increases, and small increases in the proportion who expected declines in market values. In the cotton area, some further increases are expected, although such indications are not as strong as last October. Reporters in the California specialty area were the most optimistic concerning future price increases, reflecting mainly the continuing strong demand for land for nonfarm uses.

Expectations with respect to prices of irrigated land were about the same as last fall. The number of reporters expecting an increase exceeded those who expected a decrease, but the proportion holding this view was a little less than last fall. A similar pattern is indicated for prices of grazing land, although the general weakness for nonirrigated land in the western Corn Belt applies also to grazing land in that area.

The total market value of farm real estate rose to $129.1 billion as of March 1, 1960, or $111.46 per acre. This was $4 billion above a year earlier. Several States in the Northeast, notably New Jersey, Rhode Island and Connecticut, continue to report the highest values per acre because of the nonagricultural site values attached to much of the farm real estate in that region. This is true also to some extent of California, which had the highest average value outside the Northeast ($326 per acre), although the State has about 7 million acres of irrigated land which averages about $1,000 per acre. Elsewhere, the Corn Belt States continue to rank highest in average values; Illinois leads at $294, followed by Indiana at $250, and Ohio and Iowa at $245.

With the continued increases in market values of farm real estate without corresponding increases in net farm income, the rate of return on market values for the nation as a whole has been below the interest rate on farm mortgages in 4 of the last 5 years. This situation has serious implications to individuals who have bought land recently, particularly to those with low equities. Much of this low-equity financing has resulted from a substantial increase in the use of land purchase contracts. When market values were rising, the annual appreciation had the effect of adding to buyers' equities, often at a rate equal to the annual payments on principal. Defaults on contract purchases have been rare, as have mortgage foreclosures, because buyers could readily recover their equities by open-market sales.

Table 8. - Annual payment and rate of return on investment needed to amortize balance due on a $1,000 purchase, by specified downpayments and repayment periods, 6 percent interest

Downpayment as percentage of purchase price	Annual payment when repayment term is -		Rate of return on investment needed for interest and debt repayment with no return on downpayment	
	15 years	20 years	15 years	20 years
	Dollars	Dollars	Percent	Percent
10	92.66	78.46	9.3	7.8
15	87.52	74.10	8.8	7.4
20	82.37	69.74	8.2	7.0
25	77.22	65.39	7.7	6.5

Low-equity purchases, whether by contracts or by sellers' mortgages, require relatively high rates of returns from investments. Not only is the total interest cost higher because of the larger proportion of the purchase price that is borrowed, but a larger total amount must be repaid than with conventional financing. The data in table 8 illustrate the annual payments needed for each $1,000 of the purchase price, assuming different downpayments. For example, assuming a downpayment of 20 percent, and a 20-year contract, the annual payment is $69.74 per $1,000. Thus, a farm must provide a balance equal to 7.0 percent of the purchase price after all expenses for production and family living are paid. Such a rate is substantially higher than the rate of return earned on current market values in many commercial farming areas at present.

Cash Rents

Higher cash rents for both farms and pastureland will prevail in 1960 in most of the North Central States.

Rental rates for farms in this region range from $17 to $20 per acre in the central Corn Belt to about $5 per acre in North Dakota and South Dakota (table 9). As the increase in rental rates was about the same as the increase in market values, the ratio of gross rent to value remains about the same as in past years.

Table 9. - Cash rent per acre for farms rented wholly for cash, and ratio of gross cash rent to value, Corn Belt, Lake States, and Northern Plains, 1957-60 1/

State	Cash rent per acre				Ratio of gross rent to value			
	1957	1958	1959	1960	1957	1958	1959	1960
	Dollars	Dollars	Dollars	Dollars	Percent	Percent	Percent	Percent
Ohio	12.95	12.30	12.65	12.55	5.9	5.8	5.6	5.5
Indiana	16.50	15.75	17.70	18.10	7.2	6.5	7.0	6.7
Illinois	18.75	20.05	19.45	20.55	5.7	6.1	5.3	5.4
Iowa	15.40	16.10	16.80	17.40	6.2	6.3	6.2	6.2
Missouri	9.55	8.10	10.00	9.00	8.4	6.9	7.8	7.3
Michigan	10.65	11.10	11.80	12.60	6.3	6.2	6.0	6.4
Wisconsin	11.80	12.25	12.65	13.60	8.7	8.3	8.6	8.7
Minnesota	11.35	12.05	13.35	13.45	6.7	6.9	7.0	7.1
North Dakota	3.55	3.85	4.55	4.75	8.3	8.6	9.1	8.9
South Dakota	4.45	4.80	5.15	5.20	7.4	7.3	6.8	7.1
Nebraska	6.95	7.53	7.90	7.40	6.4	6.7	7.0	6.1
Kansas	6.35	6.45	6.90	7.25	6.6	6.4	6.7	6.5

1/ Estimates supplied by crop reporters, as of April 1, for calendar years indicated.

Cash rent for pastureland rented by the acre also will be higher in 1960 than in 1959 (table 10). Although the late spring has delayed sign-up of pastureland, demand is expected to be strong because of the relatively large cattle population, and the reduced acreage available because of the Conservation Reserve Program. Pasture feed prospects are good, particularly in the Northern and Southern Plains where cattle numbers are high.

Table 10. - Cash rent per acre for pastureland and ratio of gross rent to value, Corn Belt, Lake States, and Northern Plains, 1957-60 1/

State	Cash rent per acre				Ratio of gross rent to value			
	1957	1958	1959	1960	1957	1958	1959	1960
	Dollars	Dollars	Dollars	Dollars	Percent	Percent	Percent	Percent
Ohio	7.00	6.65	6.80	7.00	5.4	5.2	5.0	5.0
Indiana	7.40	7.60	8.45	8.75	4.3	4.4	4.9	4.7
Illinois	8.15	8.50	8.30	8.80	3.7	3.7	3.7	3.6
Iowa	8.65	8.95	9.35	9.20	5.3	5.3	5.2	5.2
Missouri	5.00	5.30	5.70	5.40	6.4	6.4	6.4	5.9
Michigan	4.15	4.05	4.65	5.05	5.8	5.6	6.0	6.3
Wisconsin	5.00	5.15	5.30	6.05	8.7	8.5	8.6	9.1
Minnesota	5.65	5.95	5.80	6.30	6.8	6.8	6.6	7.0
North Dakota	1.40	1.45	1.70	1.75	5.9	5.6	6.2	5.9
South Dakota	1.90	1.95	2.15	2.30	5.7	5.4	5.3	5.5
Nebraska	3.90	4.10	4.05	4.15	6.1	6.1	5.8	5.8
Kansas	3.55	3.45	3.45	3.50	5.7	5.4	5.1	5.0

1/ Estimates supplied by crop reporters, as of April 1, for calendar years indicated.

Renting of pasture on a per head basis, either by the month or by the season, is a common practice in most areas. The rates reported for 1960 average about the same as those reported last year (table 11). Nationally, the rate of $2.80 per head per month is the same as for 1959, and changes reported for the various regions are nominal. The rates continue to be lowest in the Delta and Southeast.

Table 11. - Average rate per head per month for pasturing cattle on privately owned land, 1959 and 1960 seasons, by farm-production regions 1/

Region	Rate per head		Region	Rate per head	
	1959	1960		1959	1960
	Dollars	Dollars		Dollars	Dollars
Northeast 2/	2.40	2.60	Delta States	1.20	1.20
Lake States	1.80	1.80	Southern Plains	2.15	2.20
Corn Belt	2.20	2.20	Mountain	3.00	3.00
Northern Plains	3.05	3.00	Pacific	3.60	3.60
Appalachian	2.15	2.15			
Southeast	1.50	1.65	United States 3/	2.80	2.80

1/ Estimates supplied by crop reporters, U. S. Agricultural Marketing Service, as of April 1.
2/ Includes only N. Y., Pa., N. J., Del., and Md.
3/ Based on 42 States.

INTEREST

Interest rates paid by farmers rose sharply during 1959, and probably they will continue at a high level during 1960. Interest rates in the central money markets rose to new heights in late 1959 but declined early in 1960 because of a leveling off in the demand for credit. So far, however, the decline in money rates probably has not been great enough to cause a reduction in the rates charged to farmers, as these rates have not reflected fully the earlier rise in money market rates.

An easing of the cost of money during the first quarter of 1960 is evidenced by interest rates on recent issues of Federal land bank bonds and Federal intermediate credit bank debentures. An issue of long term (10-year) Federal land bank bonds was sold in February 1960 to yield 5.09 percent per annum to investors. In April 1960, a 4-year issue was sold to yield 4.39 percent per annum, and a 1-year issue to yield 3.86 percent per annum. Yields on 9-month Federal intermediate credit bank debentures decreased from 5.375 on January 1, 1960, to 4.4 in April 1960.

Farm-mortgage debt probably will increase during 1960 but at a slower rate than during 1959. The expected leveling off of land values will tend to keep indebtedness down. Total farm mortgage debt on January 1, 1960, was estimated at $12.4 billion, an increase of nearly 10 percent over January 1, 1959. Interest charges for 1960 are expected to reach about $640 million, $60 million more than in 1959. This increase will result from higher interest rates on new money borrowed and an increase in total indebtedness. All of the 12 Federal land banks are now charging 6 percent interest. A year ago, 7 of the banks were charging 5 percent, and 5 banks were charging 5 1/2 percent. Present indications are that interest rates charged by most farm mortgage lenders will stabilize at around 6 percent for the rest of 1960.

Non-real-estate debt of farmers to banks and federally sponsored agencies was $5.8 billion on January 1, 1959. The estimate for January 1, 1960, is $6.7 billion, an increase of almost 16 percent. Interest rates on short term loans increased during 1959, but the rate of increase slowed somewhat early in 1960.

Bank rates in general respond sluggishly to changes in the central money markets. According to a recent survey made by the American Bankers Association, bank rates paid by farmers increased by about one-third of 1 percent during the last year.

Interest rates charged by the production credit associations rose rapidly during 1959, but since the beginning of 1960, they have risen less rapidly. This pattern is shown in the distribution of associations by rates charged as indicated in the following tabulation:

Rates	April 1, 1959	October 1, 1959	February 1, 1960	April 1, 1960
	Percent	Percent	Percent	Percent
5.0 to 5.9	12	2	0	0
6.0 to 6.9	79	59	39	37
7.0 to 7.9	9	35	54	56
8.0 to 8.9	0	4	7	7
Total	100	100	100	100

TAXES

Tax payments on farm property (real estate and tangible personal property) will total about $1,424 million in 1960, an increase of 6 percent over 1959. About 82 percent of these payments will be on farm real estate (land and buildings).

Tax payments on farm real estate are expected to total about $1,169 million in 1960, as compared with $1,103 million in 1959. Tax payments per acre are expected to average $1.09 in 1960, or 6 cents higher than in 1959. The index of taxes per acre will probably advance 30 points to a high of 525 (1909-13=100).

Personal property tax payments of farmers are expected to rise about 6 percent in 1960, as compared with 1959. Taxes on this class of property in 1959 totaled $240 million. In 1960, tax payments are expected to total $254 million.

COSTS BY TYPE OF FARM

In 1957-59, operating costs per unit of product were higher than in 1947-49 on 23 of 30 types of commercial farms for which data are available (table 12). Changes from 1947-49 to 1957-59 in operating expense per unit of production (excluding charges for operator and family labor and capital) ranged from a decrease of 17 percent on poultry (egg producing) farms in New Jersey to an increase of 39 percent on tobacco-livestock farms in central Kentucky. The chief factors contributing to these differences are: (1) Differences in the relative amounts of specified goods and services used in production, (2) prices paid for some goods and services have risen more than others, and (3) changes in output (output per animal unit or crop acre, as well as total output per farm).

On poultry farms, for example, output per layer increased about 7 percent from 1947-49 to 1957-59 and total egg production was increased by 49 percent. During this period, prices paid for laying mash (the chief cash input on these farms) decreased from around $4.90 per hundredweight to $3.95 per hundredweight. Consequently, prices paid for all goods and services used in production decreased by 10 percent, and operating expense per unit of production decreased by 17 percent.

On tobacco-livestock farms, in contrast, crop yields increased 18 percent, but net farm production decreased 3 percent, largely because of smaller acreages of tobacco, and prices paid went up 24 percent from 1947-49 to 1957-59. As a result, operating expense per unit of production was nearly 40 percent higher in 1957-59 than in the earlier period.

These 30 types of farms are located in widely separated areas and represent vastly different types and systems of farming (fig. 5). Operators of different types of farms use inputs in varying combinations. For example, feed purchases comprise nearly 90 percent of the purchased inputs on poultry farms in New Jersey, whereas on some of the wheat and cotton farms, feed purchases are less than 10 percent of the total (table 13). Except for the poultry farms and a few types of livestock farms, more than half of the purchased inputs are for items of nonfarm origin.

Table 12. - Farm production and costs: Index numbers, specified types of commercial farms, 1957-59

(1947-49=100)

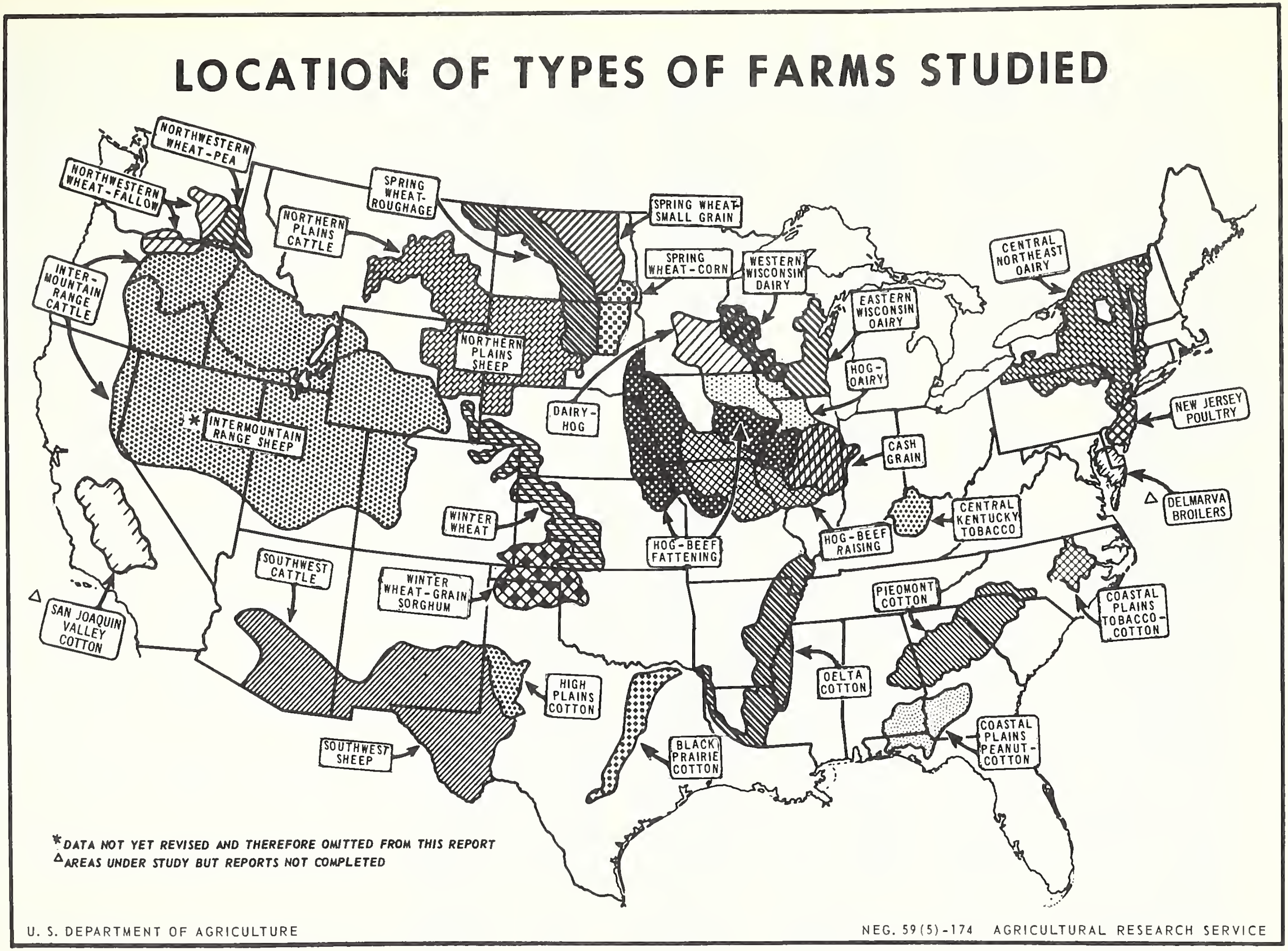
Type and location of farm	Net farm production	Crop yields	Operating expense per unit of production	Prices received for products sold	Prices paid, including wages to hired labor 1/
Dairy farms:					
Central Northeast	139	127	108	98	115
Eastern Wisconsin	137	124	105	88	117
Western Wisconsin	152	141	95	87	115
Dairy-hog farms:					
Southeastern Minnesota	144	127	107	85	122
Corn Belt farms:					
Hog-dairy	142	127	98	85	119
Hog-beef raising	150	133	102	83	120
Hog-beef fattening	130	126	116	83	119
Cash grain	126	124	124	76	132
Poultry farms:					
New Jersey (egg producing)	153	---	83	66	90
Cotton farms:					
Southern Piedmont	120	130	103	96	120
Texas:					
Black Prairie	108	115	110	86	116
High Plains (nonirrigated)	123	124	88	87	118
High Plains (irrigated)	143	140	96	92	112
Mississippi Delta:					
Small	122	124	138	96	110
Large-scale	94	119	94	94	111
Peanut-cotton farms:					
Southern Coastal Plains	158	144	130	93	114
Tobacco farms:					
Tobacco-livestock, Kentucky	97	118	139	113	124
Tobacco-cotton, North Carolina	93	126	126	113	126
Spring wheat farms:					
Northern Plains:					
Wheat-small grain-livestock	111	117	113	81	125
Wheat-corn-livestock	125	122	111	81	120
Wheat-roughage-livestock	111	100	131	86	115
Winter wheat farms:					
Southern Plains:					
Wheat	117	133	114	87	123
Wheat-grain sorghum	106	106	117	84	125
Pacific Northwest:					
Wheat-pea	147	149	106	87	123
Wheat-fallow	125	135	106	87	124
Cattle ranches:					
Northern Plains	102	91	130	100	127
Intermountain region	143	102	135	102	135
Southwest	121	101	101	106	122
Sheep ranches:					
Northern Plains	149	92	100	95	122
Southwest	130	114	93	98	108

1/ Includes cropper labor.

Table 13. - Percentage distribution of operating expenses, specified types of commercial farms, 1947-49 and 1957-59 1/

Type and location of farm	1947-49			1957-59		
	Hired labor 2/	Feed, seed, and livestock	Other operating expenses	Hired labor 2/	Feed, seed, and livestock	Other operating expenses
	Percent	Percent	Percent	Percent	Percent	Percent
Dairy farms:						
Central Northeast	12	50	38	6	47	47
Eastern Wisconsin	8	23	69	5	28	67
Western Wisconsin	9	29	62	5	30	65
Dairy-hog farms:						
Southeastern Minnesota	9	24	67	5	25	70
Corn Belt farms:						
Hog-dairy	14	27	59	7	31	62
Hog-beef raising	11	27	62	4	32	64
Hog-beef fattening	6	62	32	3	67	30
Cash grain	8	17	75	4	19	77
Poultry farms:						
New Jersey (egg producing)	4	86	10	2	89	9
Cotton farms:						
Southern Piedmont	29	11	60	22	12	66
Texas:						
Black Prairie	37	11	52	14	12	74
High Plains (nonirrigated)	38	8	54	15	8	77
High Plains (irrigated)	41	5	54	25	5	70
Mississippi Delta:						
Small	33	14	53	16	12	72
Large-scale	60	5	35	37	7	56
Peanut-cotton farms:						
Southern Coastal Plains	14	17	69	10	14	76
Tobacco farms:						
Tobacco-livestock, Kentucky	37	13	50	27	12	61
Tobacco-cotton, North Carolina	50	7	43	42	8	50
Spring wheat farms:						
Northern Plains:						
Wheat-small grain-livestock	20	4	76	9	7	84
Wheat-corn-livestock	14	11	75	5	15	80
Wheat-roughage-livestock	12	12	76	5	14	81
Winter wheat farms:						
Southern Plains:						
Wheat	12	19	69	6	20	74
Wheat-grain sorghum	13	15	72	4	22	74
Pacific Northwest:						
Wheat-pea	17	7	76	10	7	83
Wheat-fallow	23	11	66	11	11	78
Cattle ranches:						
Northern Plains	9	14	77	7	16	77
Intermountain region	14	12	74	13	21	66
Southwest	9	51	40	6	45	49
Sheep ranches:						
Northern Plains	21	36	43	25	31	44
Southwest	14	53	33	14	44	42

1/ At 1947-49 prices.
2/ Includes payments to croppers.



LOCATION OF TYPES OF FARMS STUDIED

*DATA NOT YET REVISED AND THEREFORE OMITTED FROM THIS REPORT
△AREAS UNDER STUDY BUT REPORTS NOT COMPLETED

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Figure 5

The changes in average prices paid have been greater on some types of farms than on others because operators of different types of farms buy different kinds of production goods and services. From 1947-49 to 1957-59, prices paid rose on all the types of farms except the poultry farms. They dropped 10 percent on poultry farms but rose from 8 to 35 percent on the other types of farms. They were higher in 1959 than a year earlier on 23 of the 30 types of farms (table 14).

Prices paid for items from nonfarm sources were higher in 1959 than in 1947-49 on all these types of farms. They ranged from 14 percent higher on large-scale Delta cotton farms to 46 percent higher on cash grain farms in the Corn Belt.

In general, a larger proportion of total inputs are now of nonfarm origin. The average (unweighted) for the 30 types of farms indicates that from 1947-49 to 1957-59, the relative importance of inputs of nonfarm origin increased by about 12 percent. Of the 30 types of farms, 25 showed an increase in proportion of inputs of nonfarm origin.

In general, reductions have been made in amount of labor hired. From 1947-49 to 1957-59, all except 2 of the 30 types of farms hired less labor. For the most part, the decreases were substantial. The greater decreases occurred on the crop farms, where opportunities for using labor-saving equipment were greater than on livestock farms.

Reduction in hired labor has come about concurrently with increased size of farm and output (tables 13 and 14). On 27 of the types of farms, net farm production was higher in 1957-59 than in 1947-49.

Preliminary estimates of costs and returns for specified types of commercial farms in 1959 are presented in table 15. Additional information is published annually in Farm Costs and Returns, U. S. Dept. of Agr. Agr. Inform. Bul. 176.

Table 14. - Prices paid for goods and services used in production: Index numbers, specified types of commercial farms, 1959 with comparisons 1/

Type and location of farm	All goods and services as a percentage of-		Hired labor as a percentage of- 2/		Feed, seed, and livestock as a percentage of-		Other goods and services as a percentage of- 3/	
	1947-49	1958	1947-49	1958	1947-49	1958	1947-49	1958
Dairy farms:								
Central Northeast	117	102	188	111	90	100	134	102
Eastern Wisconsin	119	103	137	105	84	102	131	102
Western Wisconsin	117	102	137	102	84	101	132	102
Dairy-hog farms:								
Southeastern Minnesota	125	102	136	104	87	101	138	103
Corn Belt farms:								
Hog-dairy	121	103	140	104	87	101	136	103
Hog-beef raising	122	101	144	104	86	100	137	101
Hog-beef fattening	125	100	139	105	120	98	134	102
Cash grain	135	102	148	104	90	101	146	102
Poultry farms:								
New Jersey (egg producing)	89	99	138	99	82	98	129	102
Cotton farms:								
Southern Piedmont	121	98	136	84	89	94	121	100
Texas:								
Black Prairie	120	103	115	120	94	100	125	102
High Plains (nonirrigated)	121	99	89	98	99	97	132	103
High Plains (irrigated)	115	103	94	104	98	97	125	102
Mississippi Delta:								
Small	113	104	107	106	82	92	120	103
Large-scale	111	101	114	104	84	89	114	101
Peanut-cotton farms:								
Southern Coastal Plains	114	99	121	107	93	89	117	99
Tobacco farms:								
Tobacco-livestock, Kentucky	126	102	122	102	86	101	134	101
Tobacco-cotton, North Carolina	126	97	130	90	88	100	130	102
Spring wheat farms:								
Northern Plains:								
Wheat-small grain-livestock	126	101	114	101	70	88	132	102
Wheat-corn-livestock	122	101	114	103	91	102	130	102
Wheat-roughage-livestock	116	100	114	101	83	102	124	102
Winter wheat farms:								
Southern Plains:								
Wheat	125	102	130	102	106	106	132	102
Wheat-grain sorghum	129	103	129	101	99	106	133	104
Pacific Northwest:								
Wheat-pea	126	106	120	101	104	108	128	106
Wheat-fallow	124	101	143	100	95	103	126	102
Cattle ranches:								
Northern Plains	129	103	136	103	124	114	129	102
Intermountain region	136	99	162	101	132	94	133	102
Southwest	130	104	136	107	112	97	145	107
Sheep ranches:								
Northern Plains	122	100	133	102	88	91	142	104
Southwest	109	99	138	113	76	93	143	99

1/ Preliminary.
2/ Includes payments to croppers.
3/ Goods and services of nonfarm origin.

Table 15. - Resources, costs and returns per farm, specified types of commercial farms, 1959 1/

Type and location of farm 2/	Size of farm: Unit	Size of farm: Number or acres	Total labor used	Total farm capital, January 1	Gross farm income 3/	Operating expenses 4/	Net farm income 5/
			Hours	Dollars	Dollars	Dollars	Dollars
Dairy farms:							
Central Northeast	Milk cows	27.8	4,370	38,670	12,124	7,611	4,513
Eastern Wisconsin	do.	21.7	4,110	40,730	9,348	6,459	2,889
Western Wisconsin	do.	20.9	4,160	30,760	7,937	4,857	3,080
Dairy-hog farms:							
Southeastern Minnesota	do.	19.8	3.930	45,260	9,194	5,499	3,695
Corn Belt farms:							
Hog-dairy	Cropland	105	4,320	50,970	12,753	6,659	6,094
Hog-beef raising	do.	110	3,510	48,280	8,195	4,778	3,417
Hog-beef fattening	do.	152	4,110	74,050	23,144	15,253	7,891
Cash grain	do.	198	3,760	112,510	13,464	7,756	5,708
Poultry farms:							
New Jersey (egg producing)	Layers	4,680	5,700	54,570	24,860	26,195	-1,335
Cotton farms:							
Southern Piedmont	Cropland	90	3,970	20,430	4,566	2,733	1,833
Texas:							
Black Prairie	do.	123	2,980	34,900	6,413	3,893	2,520
High Plains (nonirrigated)	do.	352	3,600	58,500	12,138	6,188	5,950
High Plains (irrigated)	do.	324	7,080	112,449	27,506	14,855	12,651
Mississippi Delta:							
Small	do.	38	3,340	13,000	4,438	2,415	2,023
Large-scale	do.	640	32,160	198,060	69,472	41,616	27,856
Peanut-cotton farms:							
Southern Coastal Plains	do.	72	3,810	15,840	5,838	3,401	2,437
Tobacco farms:							
Tobacco-livestock, Kentucky	do.	36	3,960	29,300	6,033	2,967	3,066
Tobacco-cotton, North Carolina	do.	46	5,750	24,870	7,333	4,615	2,718
Spring wheat farms:							
Northern Plains:							
Wheat-small grain-livestock	do.	565	2,730	50,800	8,604	5,784	2,820
Wheat-corn-livestock	do.	376	3,680	53,060	6,805	4,605	2,200
Wheat-roughage-livestock	do.	512	3,420	47,490	6,177	4,996	1,181
Winter wheat farms:							
Southern Plains:							
Wheat	do.	542	2,350	92,460	14,935	5,902	9,033
Wheat-grain sorghum	do.	563	3,510	86,840	14,843	5,487	9,361
Pacific Northwest:							
Wheat-pea	do.	519	3,520	177,120	26,260	10,106	16,154
Wheat-fallow	do.	932	3,600	136,380	20,981	9,460	11,521
Cattle ranches:							
Northern Plains	Cows	89.4	3,970	82,910	12,139	6,967	5,172
Intermountain region	do.	128.5	5,000	89,920	19,349	7,022	12,327
Southwest	do.	145.5	3,610	157,670	17,256	8,937	8,319
Sheep ranches:							
Northern Plains	Sheep	1,349	8,680	100,340	22,079	13,898	8,181
Southwest	do.	1,333	5,600	206,980	23,260	12,448	10,812

1/ Preliminary.
2/ All except large-scale cotton farms are family operated.
3/ Includes income from farming and government payments.
4/ Includes property taxes, but no rent or interest.
5/ Returns to capital and unpaid labor.

PRODUCTION INPUTS OF U. S. AGRICULTURE

Ralph A. Loomis

Farm Economics Research Division
Agricultural Research Service

The combination of inputs used in agricultural production changed dramatically from 1940 to 1958, although total inputs increased by only 3 percent. Labor declined from 56 to 30 percent of total inputs. Land and buildings made up about 15 percent in both years. Mechanical power and machinery rose from 10 to 22 percent; and all other inputs rose from 20 to 33 percent of the total (table 16).

Inputs, as used in this report,are purchased and nonpurchased economic resources which are committed annually to agriculture by farmers. They include farm operator, family, and hired labor used in production, and such purchased production goods and services as fertilizer, fuel and pesticides, depreciation of buildings and machinery, and interest charges on the capital invested in land, service buildings, machinery, and crop and livestock inventories.

Table 16. - Inputs used in agriculture, United States, 1940 and 1958 1/

Input group	1940		1958	
	Billion dollars	Percent	Billion dollars	Percent
Farm labor	13.6	56.2	7.4	29.6
Farm real estate	3.5	14.4	3.7	14.8
Mechanical power and machinery	2.3	9.5	5.4	21.6
Fertilizer and lime	.4	1.7	1.4	5.6
Feed, seed, and livestock purchases 2/	1.3	5.4	2.9	11.6
Miscellaneous	3.1	12.8	4.2	16.8
Total	24.2	100.0	25.0	100.0

1/ At 1947-49 prices.
2/ Excludes value of interfarm transactions.

Because all agriculture in the United States is treated as one large consolidated farm, the inputs of feed, seed, and livestock include only the appropriate services of transporting, marketing, grinding, mixing, cleaning, and grading as these products are moved from one farm to another, or before they are used for further production on the farm where produced. To avoid double counting, production goods purchased from other farmers are excluded. For example, feeder cattle sold by a livestock rancher to a farmer in the Midwest are not counted as inputs.

Such intangible capital inputs as public investment in roads, education, research, and health and other social services are excluded. These do affect agricultural output, but for the most part, they are not subject to control by individual farmers. Furthermore, some of these inputs contribute to farm output and some to production in the rest of the economy.

From 1940 to 1958, inputs of power and machinery, feed, seed and livestock, and fertilizer and lime more than doubled. Power and machinery rose from 10 percent of total inputs in 1940 to 22 percent in 1958. Mechanical power has largely displaced animal power on farms. It has also replaced much of the manpower. As this replacement continues, mechanical power and the accompanying equipment are likely to become the largest group of inputs in American agriculture. Despite the sharp drop in labor input, it still is the chief input comprising 30 percent of all inputs in 1958 compared with 56 percent in 1940 (fig. 6).

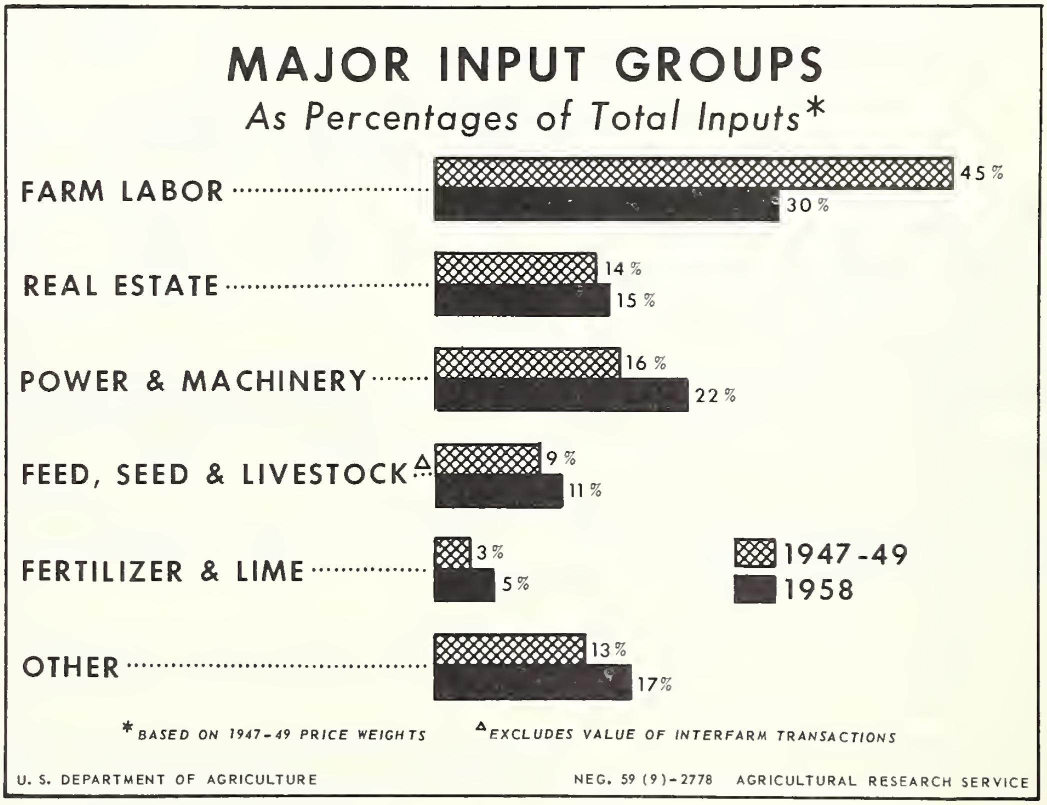

Figure 6

Services employed in transporting and processing feed, seed, and livestock for further production comprised 11 percent of total inputs in 1958. Although the use of fertilizer and lime has increased rapidly, they comprised only 6 percent of total inputs in 1958. Land and service buildings have remained relatively important inputs; they made up about 15 percent of the total in both 1940 and 1958.

Between 1940 and 1958, the quantity of purchased inputs of nonfarm origin increased 40 percent, while nonpurchased inputs decreased 28 percent. Nonpurchased inputs include operator and family labor and inputs from farmers' equity in land, service buildings, machinery, equipment, livestock, feed, and supplies. All other inputs are purchased. (See cover chart.) In 1940, nonpurchased inputs comprised 54 percent of the total; in 1958, they made up 37 percent of the total. During the same period, the unpaid labor of operators and members of their families decreased from 79 to 57 percent of total nonpurchased inputs (table 17); farmer-owned capital inputs more than doubled in relative importance.

Table 17. - Purchased and nonpurchased inputs, United States agriculture, 1940 and 1958 1/

Year	Percentage of total inputs		Percentage of nonpurchased inputs	
	Purchased	Nonpurchased	Unpaid labor	Farmer-owned capital
	Percent	Percent	Percent	Percent
1940	46	54	79	21
1958	63	37	57	43

1/ Based on 1947-49 price weights.

The trend of recent years indicates that farmer-owned capital inputs probably will increase still further in importance relative to unpaid labor. The rate of increase, however, will depend partly on the capital available to farmers. Although there was a slight increase in the equity capital (at constant prices) used by farmers between 1940 and 1958, the amount of unpaid labor declined sharply. Farmers are becoming more dependent on purchased goods and services from nonfarm sources.

Several factors have contributed to the changes in composition of inputs employed in agriculture. Inventions and discoveries in agriculture have played important roles in these changes, but inventions and discoveries in the segment of agribusiness that serves agriculture also have played a major role. As a result of technological improvements in the farm service industries, new inputs have replaced some of the old and the changing price relationships have brought significant changes in the composition of inputs.

As the price of labor (wages) rose rapidly, the availability of new and improved machinery and the favorable price relationships of these to labor have made it increasingly profitable for farmers to substitute mechanical power and machines for labor. Also, as prices of farm products rose relative to prices of fertilizer it became highly profitable to use more fertilizer. Relatively low prices of fertilizer were made possible by technological advances in the manufacturing process; they were effective because of competition in the industry. Developments in the farm machinery industry caused marginal returns from the use of machinery to rise faster than machinery prices.

Because of the lumpiness or indivisibility of labor and machinery resources, the average size of farms has tended to increase to permit fuller utilization of available labor and machines. Both the acreages of crops and numbers of livestock per farm have increased.

As livestock production became more specialized, more cattle were transferred from range to feedlot before slaughtering, more grain was moved from cash grain to livestock farms, and the use of antibiotics, growth stimulators, and other feed additives was expanded. All of these developments have contributed to the rise in purchased inputs of livestock, feed, and seed. About a third of the total value of farmers' expenditures for these inputs represents an addition to the original farm value of these items through processing, transporting, and marketing services.

Inputs of livestock, feed, and seed are well adapted to optimization of the combination of these resources with the lumpy inputs of labor and machinery. They can be added in relatively small units until the optimum combination for lowest cost production is obtained.

Only a few of the major changes in input composition have been mentioned. Many others are minor relative to total inputs but may be significant in the production of a given commodity or in a specific area. Chemical weed control, hay chopping and drying equipment, disease and pest control and eradication in livestock, supplemental irrigation, and bulk milk-handling are a few examples.

With changing technology, the composition of inputs will continue to change. Production inputs of the future will include items as yet unknown, and they will exclude some now in common use. Perhaps the most striking example of recent development is the change in pesticides used in agriculture. Those most common in 1958 were unknown in 1940; some that were in common use in 1940 were all but forgotten in 1958.

HAS TECHNOLOGY MADE FARMERS MORE VULNERABLE TO THE PRICE-COST SQUEEZE?

W. Herbert Brown

Farm Economics Research Division
Agricultural Research Service

Are farmers more vulnerable than formerly to a price-cost squeeze? Many observers think so. Farmers have shifted from the use of animal power and large amounts of hand labor to tractor power and more machinery. A larger proportion of total inputs is purchased. Prices of purchased items tend to be more rigid than prices of farm products and farm wage rates.

Unfortunately, we have no commonly accepted definition of vulnerability in the economic sense. Some economists think of vulnerability as the amount by which net farm income is reduced as the price-cost relationship becomes less favorable; the reduction can be measured in relative or absolute terms. Others refer to the level of income remaining as the price-cost relationship becomes less favorable. Both concepts are important and both are examined here.

Degrees of vulnerability differ among different types of farms. To examine these differences, 10 types of farms were analyzed. For each type of farm, incomes with pre-World War II and postwar organization and technology were compared. Progressively less favorable price-cost relationships were applied to typical operations of each period. For each period, prewar and postwar, net farm incomes were first calculated at 1947-49 prices. This gave a comparison of the two methods of operation at relatively favorable price-cost relationships. Then 1957 prices were used to compare the effect of a "moderate" price-cost squeeze on net farm income with each of the two technological situations.

Next, we used price-cost relationships less favorable than those in 1957 to determine the effect of a more severe price-cost squeeze. In this instance, prices received were reduced 30 percent from 1957. Prices of feed, seed, and livestock bought and farm wage rates were reduced 25 percent, machinery 3 percent, and all other purchased items 12 percent below 1957.

Last, with no further reduction in prices paid, prices received were reduced to a point at which incomes were equal for both prewar and postwar operations. (This was possible because a further reduction in prices received reduced incomes more with postwar methods of operation than those with prewar methods.)

In the last two steps, prices received for all products were reduced by the same percentages. For most of the important products sold, examination of the history of prices received revealed no consistent pattern in which some prices changed more than others.

Table 18. - Increase in income, size, and purchased inputs as a proportion of total inputs, selected commercial family-operated farms, prewar and postwar periods 1/

Type of farm	Years		Relative increase from prewar to postwar period in-			Purchased inputs as a percentage of total inputs		
	Prewar	Postwar	Net farm income	Total inputs	Production per unit of input	Prewar	Postwar	Increase or decrease
			Percent	Percent	Percent	Percent	Percent	Percent
Dairy, Central Northeast	1930-33	1953-57	85	31	24	61	67	6
Cotton, Southern Piedmont	1930-32	1954-56	18	7	9	60	65	5
Winter wheat, Southern Plains	1930-33	1954-55	23	11	4	53	50	-3
Hog-beef raising, Corn Belt	1930-33	1954-57	108	37	41	38	49	11
Tobacco-livestock, Kentucky	1931-33	1954-57	20	17	9	43	52	9
Cash-grain, Corn Belt	1930-32	1954-55	74	27	34	42	54	12
Wheat-small grain-livestock, Northern Plains	1930	1954-56	103	20	37	52	54	2
Dairy, Western Wisconsin	1930-34	1953-57	48	26	34	31	51	20
Hog-beef fattening, Corn Belt	1930-32	1954-57	69	59	14	57	71	14
Cotton, Black Prairie	1930-31	1955	14	34	4	48	64	16

1/ 1947-49 prices used as weights.

Reductions in prices paid were patterned after the reductions that occurred in the 1920-22 and 1929-33 periods. These were the only periods after World War I when prices paid declined substantially.

The 10 types of farms analyzed, the periods used to represent prewar and postwar methods of operation, and the changes in income, inputs, and efficiency are shown in table 18. For lack of better names, "prewar operations" and "postwar operations" are used to describe size, organization, production, purchases, and sales with two different levels of technology. The effects of weather were minimized by choosing one or more years in each period when yields for the particular type of farm averaged about normal for the period. For the first part of the analysis, these farmers were assumed to be free of debt.

When net incomes are computed at 1947-49 prices and cost rates, the postwar operations give the highest incomes on all types of farms. The increase in net farm incomes is associated with the increase in size of farms and improvement in efficiency.

When prices are changed from the 1947-49 level to the generally less favorable price-cost relationship of 1957, net farm incomes are reduced for both methods of operation on all farms except for the prewar operations on tobacco-livestock farms (table 19). In each instance, the absolute reduction in net income is greater with the postwar operation than it would have been if farmers had continued to operate their prewar size of farms with prewar methods.

Although the reductions in net incomes were greater for the postwar operations, the remaining net incomes at 1957 prices were higher than with prewar operations on all farms except Black Prairie cotton farms. Unless the price-cost squeeze gets worse than it was in 1957, most farmers who had expanded the size of their farms and adopted new technology are in better position to meet a given set of financial obligations than those who have made no changes.

From 1947-49 to 1957, prices received for feed grains, livestock, and livestock products declined more than prices received for cotton and wheat. Thus, the average of prices received declined most on farms on which production of feed grains and livestock were relatively important.

Similarly, the increase in prices paid varied from one type of farm to another, depending on the relative importance of individual items purchased. In general, prices paid for machinery rose more than prices of other items purchased, such as fertilizer and fuel. Prices paid for feed, seed, and livestock declined from 1947-49 to 1957. The increase in farm wage rates varied by areas.

Table 19. - Net farm income, 1947-49 and 1957 prices

Type of farm and period	Net farm income: Prices: 1947-49	Net farm income: Prices: 1957	Net farm income: Reduction
	Dollars	Dollars	Dollars
Dairy, Central Northeast:			
Postwar	5,514	4,488	1,026
Prewar	2,988	2,014	974
Cotton, Southern Piedmont:			
Postwar	1,758	1,423	335
Prewar	1,485	1,178	307
Winter wheat, Southern Plains:			
Postwar	7,496	5,384	2,112
Prewar	6,096	4,307	1,789
Hog-beef raising, Corn Belt:			
Postwar	5,280	3,247	2,033
Prewar	2,540	1,312	1,228
Tobacco-livestock, Kentucky:			
Postwar	3,245	3,201	44
Prewar	2,712	2,833	-121
Cash grain, Corn Belt:			
Postwar	10,557	5,671	4,886
Prewar	6,077	2,832	3,245
Wheat-small grain-livestock, Northern Plains:			
Postwar	7,694	3,853	3,841
Prewar	3,789	2,067	1,722
Dairy, Western Wisconsin:			
Postwar	4,209	2,520	1,689
Prewar	2,851	2,020	831
Hog-beef fattening, Corn Belt:			
Postwar	12,504	5,576	6,928
Prewar	7,386	3,895	3,491
Cotton, Black Prairie:			
Postwar	3,220	1,903	1,317
Prewar	2,822	2,183	639

As a result of these changes in prices and cost rates and the shifts in relative importance of various products and inputs, the ratio of prices received to prices paid decreased more on some farms than on others. The price-cost ratio declined further for postwar than prewar operations on five types of farms, by the same amount on one type of farm, and less on four others.

When prices received are reduced 30 percent below 1957, and prices paid are reduced 3 percent for machinery, 25 percent for feed, seed, livestock, and farm wage rates, and 12 percent for all other items, the kinds of changes in net incomes are similar to those obtained when prices are changed from 1947-49 to the 1957 level. Net farm incomes are reduced by 27 to 102 percent more with postwar operations than with corresponding prewar operations. On 8 of the 10 types of farms, however, the highest net farm incomes are still obtained with the postwar operations. On 5 types of farms, prices received must be reduced by 54 percent or more before the advantages of the postwar operations are eliminated (table 20); the ratio of prices received to prices paid would need to be reduced by 50 percent or more below 1957.

As price-cost relationships become less favorable, net farm incomes are reduced most on farms that had the largest increase in volume of production. Another factor, perhaps of lesser importance, that contributed to lower net incomes, was the shift from use of production items with flexible prices to use of those with less flexible prices. This change contributed to lower net incomes on 8 of the 10 types of farms studied. When cost rates were adjusted as indicated on the 8 types of farms, the index of prices paid dropped faster for postwar operations than for prewar operations. Also, the types of farms that had the greatest increase in the proportion of purchased inputs had the greatest reduction in net farm incomes with postwar operations relative to prewar operations.

Some factors that contribute to vulnerability in the first sense (reduction in net farm income) also contribute to vulnerability in the second sense (lower level of net income). But farms that are most vulnerable in the first sense are not necessarily the same forms that are more vulnerable in the second sense. This is because greater efficiency, a major factor contributing to higher incomes from postwar operations compared with prewar operations, has generally resulted in a larger volume of production which, in turn, contributes to the reduction in net incomes with unfavorable price ratios.

In general, the five types of farms on which prices received may be reduced 54 percent or more before the advantages of the postwar operation are lost had the following characteristics (tables 19 and 20): (1) Relatively large increase in efficiency; (2) a small increase, or none, in the proportion of purchased inputs; (3) a small shift, or none, from use of production items with flexible prices to items with more rigid prices.

Table 20. - Changes in prices received that will give the same income on prewar as on postwar operations

Type of farm	Change in prices received 1/	Increase from prewar to postwar period in-			Difference in index of prices paid 3/
		Total inputs	Efficiency	Proportion of purchased inputs 2/	
	Percent	Percent	Percent	Percent	Percent
Winter wheat, Southern Plains	-67	11	4	-3	3
Dairy, Central Northeast	-66	31	24	6	2
Hog-beef raising, Corn Belt	-63	37	41	11	-1
Cash grain, Corn Belt	-60	27	34	12	1
Wheat-small grain-livestock: Northern Plains	-54	20	37	2	4
Hog-beef fattening, Corn Belt	-37	59	14	14	-1
Tobacco-livestock, Kentucky	-33	17	9	9	4
Cotton, Southern Piedmont	-31	7	9	5	5
Dairy, Western Wisconsin	-28	26	34	20	3
Cotton, Black Prairie	9	34	4	16	4

1/ That will give the same income for the operations in each period.

2/ Percentage of total inputs purchased in postwar operations minus corresponding percentage with prewar operations at 1947-49 prices.

3/ Index of prices paid with postwar operation minus index of prices paid with prewar operations.

If the period of price-cost squeeze is of short duration, farmers can maintain expenditures for family living by delaying some capital investments. This would increase the advantage of postwar operations because investments in machinery and buildings were larger in that period. This advantage would be less as the duration of the price-cost squeeze was extended. Either repair costs would be higher or some capital investments would be necessary.

If farmers were to go into debt for all additional investment needed to increase size of farm and adopt new technology, much of the advantage of the postwar operations would be lost. At 1957 prices and cost rates, the advantages of postwar over prewar operations would be less than at 1947-49 prices. With prices received reduced 30 percent below the 1957 level, probably the prewar operation would have the advantage.

In conclusion, net incomes fluctuate more in absolute terms than before World War II, but they tend to remain higher, even with highly unfavorable price-cost relationships. If these relationships are reduced to extremes, however, the situation is reversed; farmers then would be more vulnerable than if they had continued their prewar type of operations. The debt position of individual farmers greatly affects their ability to survive a reduction in price-cost ratios; if debts are increased substantially and price-cost ratios become extremely unfavorable, postwar methods of operations would make farmers more vulnerable than they would have been with prewar operations.

DISTRIBUTION OF PRODUCTION EXPENDITURES BY ECONOMIC CLASS OF FARM

E. J. Smith

Farm Economics Research Division
Agricultural Research Service

Our farming industry is made up of comparatively few large commercial farms and a great many smaller ones. We often need more information than is available on the characteristics and relative importance of these various groups of farms. We need to know, for example, how total agricultural production, income, and expenditures are distributed among farms at the upper end of the economic scale, and those at the lower end.

Much valuable information of this type is available in census data, which give aggregate figures on the total value of products sold, by economic class of farm. These data show than in 1954, for example, farms with more than $10,000 in sales made up slightly more than 12 percent of the total number of farms (by the census definition), but produced 58 percent of total marketings. 1/ But if we add together the numbers of farms and the value of marketings from all farms in census classes VI through IX, we find that about 40 percent of all farms produced a mere 3.4 percent of the total value of farm product sales in that year.

Recent publications of the results of the 1955 Farm Expenditures Survey, conducted by the Departments of Agriculture and Commerce, make available valuable information on how aggregate farm expenditures are distributed among economic classes of farms.2/ The following brief comparison of 1955 expenditures for selected items by three major groups of farms is based on that survey. Farms with value of products sold in excess of $10,000 (economic classes I and II) make up one group; those selling from $1,200 to $9,999 worth of farm products (classes III through V) the second group, and farms in class VI (sales of less than $1,200), part-time, and residential farms, make up the third group. Abnormal or class IX (mostly institutional) farms were not covered by the survey of expenditures.

Just as classes I and II farms accounted for the lion's share of the production for market, they also paid the lion's share of the expenses - only the share wasn't quite as large. Classes I and II farms, which made up only 14 percent of all farms in 1955, paid or incurred just about 50 percent of the total production expenses (fig. 7), compared with 58 percent of total marketings. On a per farm basis, they reported expenditures of a little more than 4 times the average expenditures for classes III to V farms, and nearly 15 times the average for the classes VI to VIII group.

1/ McElveen, J. V., Family Farms in a Changing Economy, U. S. Dept. Agr. Agr. Inform. Bul. 171, p. 12, 1957.

2/ See, for example, Supplement to Published Reports on Survey of Farmers' Expenditures in 1955, U. S. Dept. Agr. and U. S. Dept. Commerce, AMS-354, 1959.

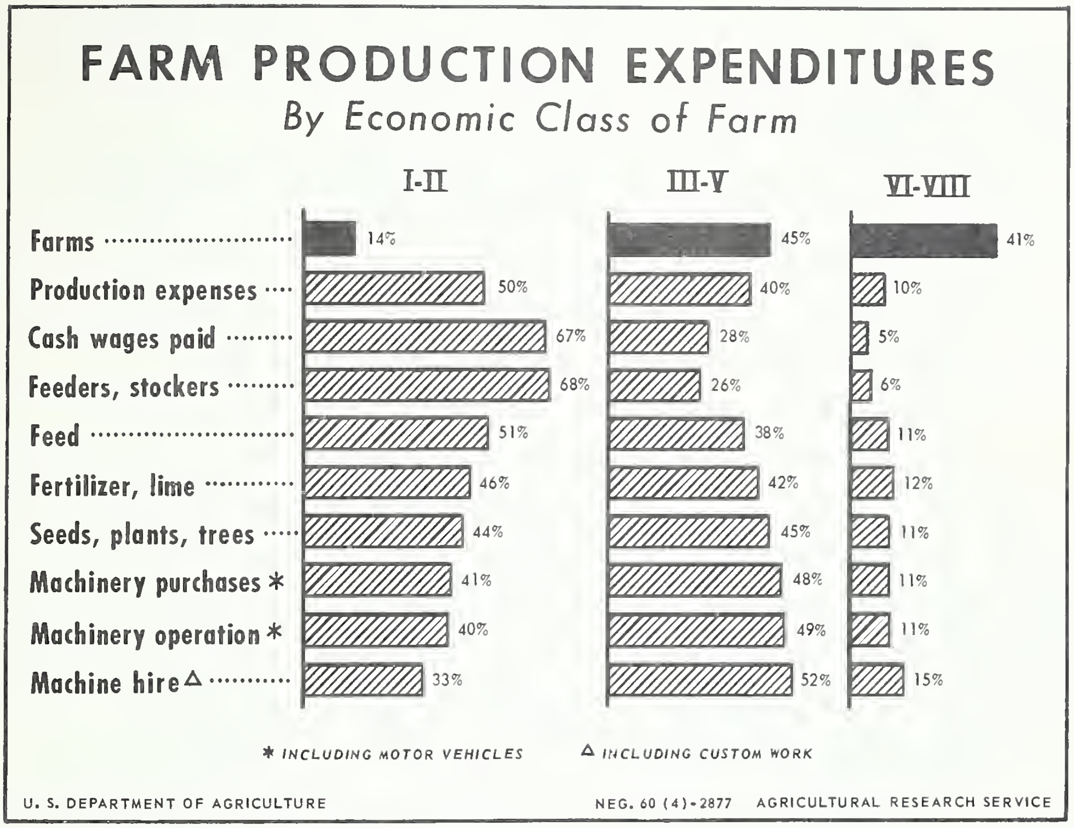

Figure 7

Turning to the individual expense items, the classes I and II farms paid 67 percent of the total hired labor bill for all farms in 1955. Wages paid to hired labor made up nearly 14 percent of all production expenditures on this group of farms, a considerably higher proportion than with the other 2 groups (table 21).

The relative shares of the several expense items shown strongly suggest that as a group, classes I and II farms specialize more intensively in livestock production than do other farms. They bought 68 percent of the stocker and feeder livestock but accounted for only 42 percent of the total purchases of other livestock and poultry. Their expenditures for stockers and feeders made up roughly twice as high a percentage of their total production expenditures as was true of the other two groups of farms. That they may be stocked a little heavier in relation to their feed producing capacity is suggested by their 51 percent share of all feed purchases.

Classes I and II farms, however, accounted for a smaller part of some important crop expenses and other items less directly connected with specialized livestock production. They bought 46 percent of the fertilizer and lime, and 44 percent of the seeds, plants, and trees. Motor vehicles and machinery purchase and operation followed with 41 and 40 percent of the total, respectively. Although the differences are not large, they are consistent in direction.

Table 21. - Percentage distribution of production expenditures, by specified items, and economic class of farm, 1955

Item	Economic class of farm			
	I-II	III-V	VI-VIII	All farms
	Percent	Percent	Percent	Percent
Cash wages paid	13.8	7.2	5.5	10.4
Feeders and stockers	11.5	5.6	4.5	8.5
Feed for livestock and poultry	17.6	16.3	18.9	17.2
Fertilizer and lime	5.0	5.7	6.8	5.5
Seeds, plants, trees	3.0	3.9	3.8	3.4
Motor vehicle and machinery purchases	8.8	13.1	12.6	10.9
Motor vehicle and machinery operation	10.3	15.7	14.3	12.9
Machine hire and custom work	1.6	3.1	3.5	2.4
All other	28.4	29.4	30.1	28.8
Total farm production expenses	100.0	100.0	100.0	100.0

Note that the share of expenditures for machine hire and custom work of classes I and II farms drops to 33 percent of the total for all farms. The percentages of all production expenses spent for these items by farms in each of the three groups point in the same direction. Expenditures for machine hire and custom work were approximately twice as important on the two groups of smaller farms as on the larger ones (3.1 and 3.5 percent vs. 1.6 percent). But the percentage of total expenditures for motor vehicle and machinery purchase and operation on the smaller farms was only about half again as great as on the larger farms. Probably, this reflects the fact that larger farms more often own their own equipment, while the smaller farms find it more economical to rent the more expensive machines than to buy them.